ISO 18971:2026-01 (E)

Corrosion of metals and alloys - Monitoring method for corrosion states of stainless steel in industrial cooling water

Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Monitoring principle **2**

5 Monitoring system **4**
5.1 General 4
5.2 Monitoring probes (sensors) 5
5.3 Detecting instruments 6
5.4 Selection and setting of on-site corrosion monitoring points 6
5.5 Calibration of corrosion monitoring system 7
5.5.1 Calibration cycle 7
5.5.2 Calibration of detecting instruments 7

6 Methods and procedures of corrosion monitoring **7**
6.1 Methods of polarization resistance measurement 7
6.1.1 Sine wave excitation 7
6.1.2 Triangular wave excitation 7
6.2 Corrosion potential measurement 7
6.3 Monitoring and evaluation of corrosion states of stainless steel 7
6.3.1 Monitoring procedures 7
6.3.2 Corrosion states evaluation of stainless steel 8

7 Data acquisition and processing **8**
7.1 Data sampling cycle 8
7.2 Data records 8
7.2.1 Records of the electrochemical data 8
7.2.2 Records of the environmental data 9
7.3 Data analysis and processing 9

8 Management and operation attentions of the monitoring system **9**
8.1 Management of monitoring system 9
8.2 Operation attentions 9

9 Monitoring report **10**
9.1 General 10
9.2 Basic information of monitoring 10
9.3 Information of the monitoring system 10
9.4 Monitoring results and analysis 10

Annex A (informative) **Corrosiveness monitoring and evaluation of industrial cooling water** **11**

Annex B (informative) **Case study: Monitoring the corrosion of stainless steel** **12**

Bibliography **14**